

WiSTEM iGEM Workshop I

Who is iGEM

- Undergraduate student group competing annually in international competition working on synthetic biology based research projects
- Volunteer based
- Cooperation with WiSTEM to introduce and promote synthetic biology and encourage and inspire young female student peers
- Provide some wet-lab training and provide connection

What is Synthetic biology?

Synthetic biology is the design and engineering of novel systems, and reengineering of current biological systems. Integration of engineering, computer science, mathematical modeling, and biology.

Possible Cool Applications of SynBio

- Gene Editing, Gene therapy,
foundational molecular biology
tools: 2015-Waterloo iGEM
- Amyris - Therapeutic biological
drug

Possible Cool Applications of SynBio

- Pharmacological Application-
Paper based diagnostic system
- Ginko Bioworks-Industrial
application

Possible Cool Applications of SynBio

- Synbio in producing clean energy
- Environmental application – Colony Collapse Disorder

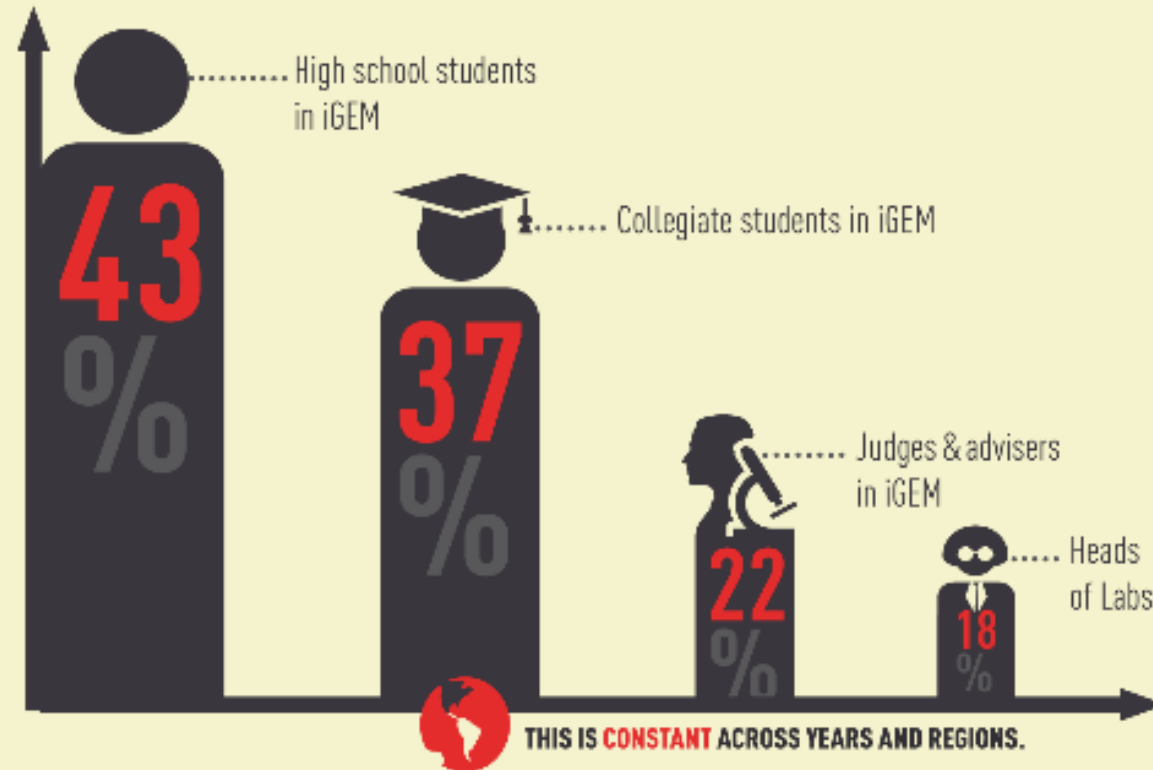
Inspirational Women in the Field

- <https://www.youtube.com/watch?v=oZSNhgDgW0g>

GENDER & SYNTHETIC BIOLOGY

IN SYNTHETIC BIOLOGY

% of women



THE GLASS CEILING

political term used to describe "the unseen, yet unbreakable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements"

U.S. Department of Labor

THE LEAKY PIPELINE

metaphor, conceptual framework, or model to describe the circumstance that women scientists leave science academia at a greater rate than their male colleagues

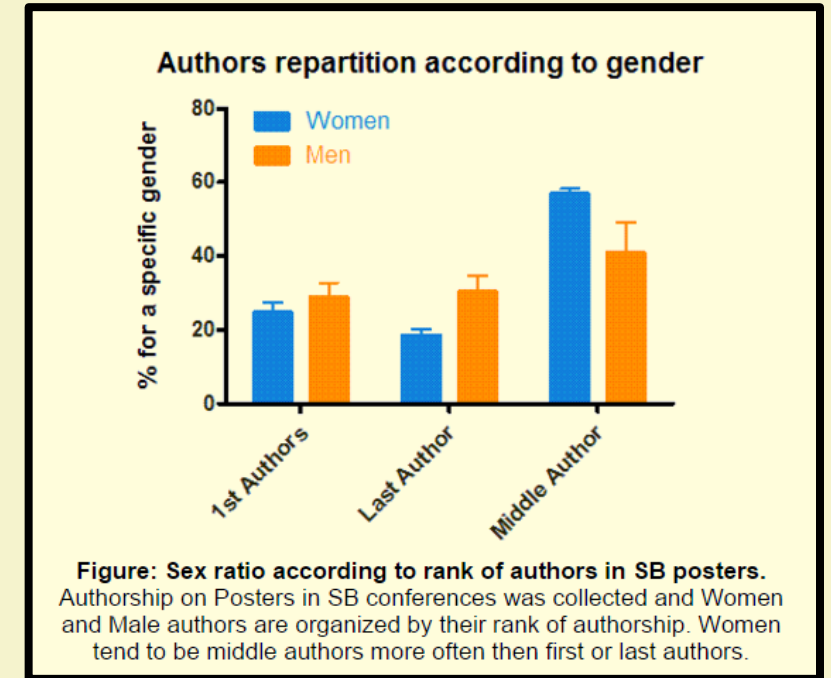
Lone Svinth, The Danish University of Education

INTERACTIVE ACTIVITY

1. What could be some reasons for the leaky pipeline?

2. What solutions can be implemented for the cause of equal representation in STEM?

- At the systematic level
- At the individual level



IN iGEM



WE DO **BETTER SCIENCE** WORKING
TOGETHER

Prize-winning teams are

**45 % OF
WOMEN**



Participating teams
ARE ONLY 37%



IN iGEM

WOMEN & MEN

HAVE EXACTLY THE SAME MOTIVATIONS FOR DOING iGEM



EXCEPT

FOR LEADING
A TEAM OR A PROJECT



**MEN ARE MORE LIKELY
TO SEEK AUTHORITY**